

S/073/62/028/005/003/005
1003/1293

AUTHORS: Pamfilov, A.V., Mushiy, R.Ya., and Mazurkevich Ya.S.

TITLE: The photocatalytic activity of anatase and of rutile

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v. 28, no 5, 1962, 589-594

TEXT: There are indications in the literature that the crystal structure of titanium dioxide is the factor which determines its activity as an accelerator in the process of decomposition of organic coatings. It was found that the photoelectric activity of rutile prepared by the hydrolysis of titanium tetrachloride is considerably higher than that of rutile obtained by heating anatase at high temperatures. The activity of rutile obtained by the hydrolysis of $TiCl_4$ is almost the same as that of anatase obtained by precipitation with ammonia from a solution of $TiCl_4$. Very small admixtures of heavy metals increase the activity of TiO_2 but large amounts (above 0.1%) decrease it. There is a strict relationship between the photocatalytic activity of TiO_2 and ZnO and their electric and photoelectric properties. There are 2 figures and 4 tables.

Card 1/2

The photocatalytic...

S/073/62/028/005/003/005
I003/I203

ASSOCIATION: Chernovitskiy gosudarstvennyy universitet (Czernowitz State
University)

SUBMITTED: February 21, 1961

Card 2/2

S/073/62/028/009/002/011
A057/A126

AUTHORS: Pamfilov, A. V., Mazurkevich, Ya. S.

TITLE: The photocatalytic activity of cadmium sulfide

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v. 28, no. 9, 1962, 1014 - 1018

TEXT: The effect of preparing and thermally pre-treating cadmium sulfide, the effect of admixtures (W, Ag, Cu) upon its activity as catalyst in the photo-synthesis of hydrogen peroxyde, and the photoreduction of methylene blue by form-aldehyde were studied in the Chernovitskiy gosudarstvennyy universitet (Chernovits State University). Also the photocatalytic activity of some zinc sulfide samples was investigated. The activity was determined by a previously described method and the photo-emf measured by the condenser method. A considerable effect of the preparation method upon the catalytic activity of CdS was observed. Highest activity showed CdS prepared from CdCl_2 . Also the introduction of halogens increases the activity of CdS. The effect rises in the sequence J - Br - Cl. Preheating of CdS to 400 - 700°C in a thoroughly purified nitrogen atmosphere improves also the catalytic activity. The authors state that, contrary

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The photocatalytic activity of cadmium sulfide

S/073/62/028/009/002/011
A057/A126

to the opinion of R. E. Stephens et al. (J. Phys. Chem , v. 59, 1955, 966) an increase in excess Cd effected by heating or by the resulting loss of sulphur, causes a rise in the activity, since the Cd atoms play the role of active centers. Also admixtures of metals (W, Ag, Cu) increase the catalytic activity of CdS. Maximum activity showed CdS containing 0.002 - 0.003 at.% of metal admixture. The effect rises in the sequence Cu - Ag - W. The simultaneous change of the photo-emf with the photocatalytic activity of CdS is stipulated by the electronic state of its surface. Experiments with ZnS catalysts showed a very low activity of the latter and a drop in activity effected by metal admixtures. There are 6 tables.

ASSOCIATION: Chernovitskiy gosudarstvennyy universitet (Chernovits State University)

SUBMITTED: July 12, 1961

Card 2/2

PAMFILOV, A.V.; MAZURKEVICH, Ya.S.; NOVAL'KOVSKIY, N.P.

Relation between the photocatalytic activity of zinc oxide
and titanium dioxide and the breakdown of film containing
these pigments. *Lakokras.mat.i ikh prim.* no.1:23-26 '63.
(MIRA 16:2)

(Pigments)
(Photochemistry)

ACCESSION NR: AP4011974

S/0073/64/030/001/0043/0048

AUTHORS: Pamfilov, A.V.; Mazurkevich, Ya. S.

TITLE: Photocatalysis and surface properties

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 30, no. 1, 1964, 43-48

TOPIC TAGS: photocatalysis, zinc oxide, titanium oxide, catalytic properties, heat treatment, surface properties, specific activity

ABSTRACT: The photocatalytic activity of zinc and titanium oxides, per unit surface, changes depending on the atmosphere and temperature of their preliminary treatment. The conclusions about specific activity set forth by G.K. Boreskov (Sb. Heterogeneous catalysis in the Chemical industry, GKhI, M, 1955, atr.5) do not apply to the photocatalytic reactions studied herein. The activity of ZnO and TiO₂ in photochemical reduction of dyes or formation of H₂O₂ is reduced on calcining in air at 900C. Increasing temperature of heating in air significantly decreases specific surface of TiO₂. Thermal

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ACCESSION NR: AP4011974

treatment in inert (nitrogen) or reducing (hydrogen) medium increases the photocatalytic activity. In the case of ZnO, there is no increase in activity after heat treatment in inert or reducing atmosphere probably due to the reduction of the ZnO to the metal above 500C. Orig. art. has: 4 figures and 2 tables.

ASSOCIATION: Chernovitskiy gosudarstvennyy universitet
(Chernovitsk State University)

SUBMITTED: 27Jul62

DATE ACQ: 14Feb64

ENCL: 00

SUB CODE: PH, MA

NO REF SOV: 011

OTHER: 003

Card 2/2

PAMFILOV, A.V.; BONDAR', P.G.; MAZURKEVICH, Ya.S.

Effect of oxygen and water vapor adsorption on work function of an
electron from titanium dioxide. Ukr. khim. zhur. 31 no.1:42-53 '66.
(MIRA 18:5)

1. Chernovitskiy gosudarstvennyy universitet.

L 42403-65 EWG(j)/ENT(m)/EPF(c)/EPR/ENP(t)/ENP(b) Pr-4/PS-4 LJP(c) JD

ACCESSION NR: AP5008858

S/0073/65/031/003/0252/0257

AUTHOR: Mazurkevich, Ya. S.; Noval'kovskiy, N.P.; Pamfilov, A.V.; Savitskiy, A.V.

TITLE: Magnetic susceptibility and photocatalytic activity of zinc oxide and titanium oxide

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 31, no. 3, 1965, 252-257

TOPIC TAGS: ²⁷zinc oxide, ²⁷titanium oxide, magnetic susceptibility, photocatalytic activity

ABSTRACT: The study was made in order to determine the relationship between the magnetic susceptibility of zinc oxide and titanium oxide and their photocatalytic activity. The magnetic susceptibility measurements involved the use of automatic weighing and magnetic field stabilization (a diagram of the device used is given). The variation in the specific magnetic susceptibility of ZnO as a function of temperature and of preliminary thermal treatment in hydrogen was determined, and the influence of reduction on the temperature dependence of the specific magnetic susceptibility of TiO₂ was established. It was found that between the photocatalytic activity of the oxides of zinc and titanium and their paramagnetism there exists a relationship which confirms the hypothesis that the

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L 42403-65

ACCESSION NR: AP5008858

centers of the photocatalytic processes in these compounds are the Zn^{2+} and Ti^{3+} ions.
 "We express our appreciation to K.D. Tovstyuk for enabling us to carry out certain
 measurements." Orig. art. has: 5 figures, 1 formula and 1 table.

ASSOCIATION: Chernovitskiy gosudarstvennyy universitet (Chernovtsy State University)

SUBMITTED: 08Jul63

ENCL: 00

SUB CODE: IC, EM

NO REF SOV: 007

OTHER: 011

L 1716-66 EWT(m)/EPF(c)/EWP(t)/EWP(b) IJP(c) JD

ACCESSION NR: AP5020951

UR/0073/65/031/008/0768/0771

AUTHOR: Pamfilov, A. V.; Bondar', P. G.; Mazurkevich, Ya. S.

24
23
B

TITLE: Effect of modification on the energy required for removing an electron from titanium dioxide ✓

SOURCE: Ukrainskiy khimichesky zhurnal, v. 31, no. 8, 1965, 768-771

TOPIC TAGS: titanium dioxide, aluminum hydroxide, paint, catalysis, electron removal, electric potential, electromotive force

ABSTRACT: The work deals with changes in contact difference of TiO_2 potentials upon introducing admixtures under conditions corresponding to those for the catalytic synthesis of hydrogen peroxide. Iron, copper, gold, and molybdenum were added as $FeSO_4$, $CuSO_4$, $AgNO_3$ and H_2MoO_4 under subsequent heating to 500 C maintained for 24 hours. The contact differences of potentials were measured by the Kelvin method on specimens previously processed under vacuum at 60 C for 1 hour. A table shows the difference in TiO_2 potentials under vacuum at room temperature for all admixtures, varying from 0.0003 to 0.3 at%. Decrease in the potential of the TiO_2 surface upon soaking it in low concentrations of iron

Card 1/2

L 1716-66

ACCESSION NR: AP5020951

or molybdenum salts was apparently related to the formation of a solid solution in the surface layer. Due to the closely approximating size of the Fe^{+3} and Ti^{+4} radii, higher concentration should lead to substitution and a decrease in the concentration of free electrons, and therefore greater energy for removing an electron from TiO_2 and an increase in potential. This was confirmed. Maximal speed of catalytic reaction corresponded to a certain electric potential of the surface, so that TiO_2 was a good photocatalyst only at certain admixture concentrations. Both the nature and purity of the admixed substance were important. Thus small admixtures decrease the energy required, while large additions increase it. Modification of TiO_2 with $\text{Al}(\text{OH})_3$ led to considerable increase of the work required for removing an electron ($\Delta\Phi = +374 \text{ ma}$) and a two-fold increase of surface stability in air. Orig. art. has: 1 table and 2 figures

ASSOCIATION: Chernovitskiy gosudarstvennyy universitet (Chernovits State University)

SUBMITTED: 04Apr64

ENCL: 00

SUB CODE: IC, GC

NR REF SOV: 007

OTHER: 005

Card

2/2

L 2003-66 ENT(1)/ENT(m)/EPF(c)/EPA(w)-2/T/ENP(t)/ENP(b)/EWA(m)-2/EWA(h) IJF(c)

JD/AT
ACCESSION NR: AP5023957

UR/0073/65/031/009/0918/0923
546.821+537.533.2

44.55
AUTHOR: Pamfilov, A. V.; Masurkevich, Ya. S.; Bondar', P. G.

44.55
TITLE: Effect of illumination on electron work function from titanium dioxide

21,44.55
SOURCE: Ukrainskiy Khimicheskii zhurnal, v. 31, no. 9, 1965, 918-923

TOPIC TAGS: UV irradiation, work function, electron mobility, semiconductor research, titanium dioxide

ABSTRACT: The effect of UV illumination on electron work function from titanium dioxide at various O_2 and H_2O partial pressures was studied by means of contact potential difference technique. Before each test, the TiO_2 samples were activated for 1 hour at $50^\circ C$ and 10^{-3} mm Hg. The electron work function from titanium dioxide depends upon the surface condition. For clean TiO_2 samples the UV illumination is reflected in reduced electron work function due to photodesorption. The effect of UV illumination on contact potential difference of TiO_2 is shown in fig. 1 of the Enclosure. The kinetics of decline and build-up of the contact potential difference due to UV switch on and off at $P_{O_2}=P_{H_2O}=8\text{mm Hg}$ is shown in fig. 2 of the

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L 2003-66

ACCESSION NR: AP5023967

Enclosure. The effect of UV illumination on the contact potential difference of TiO_2 at $P_{O_2}=10^{-4}$ mm Hg is shown in fig. 3 of the Enclosure, where: 1 is for rutile "malarin", 2 is rutile "malarin" cleaned with HCl. For TiO_2 surfaces covered with sulfates, the UV illumination is reflected in increased electron work function due to photosorption of oxygen. Orig. art. has: 1 table, 5 figures.

ASSOCIATION: Chernovitskiy gosudarstvennyy universitet (Chernovtsy State University)

SUBMITTED: 29Apr64

NO REF SOV: 005

ENCL: 03

SUB CODE: IC, GC, SS, OP

OTHER: 006

Card 2/5

L 2003-66

ACCESSION NR: AP5023967

ENCLOSURE: 01

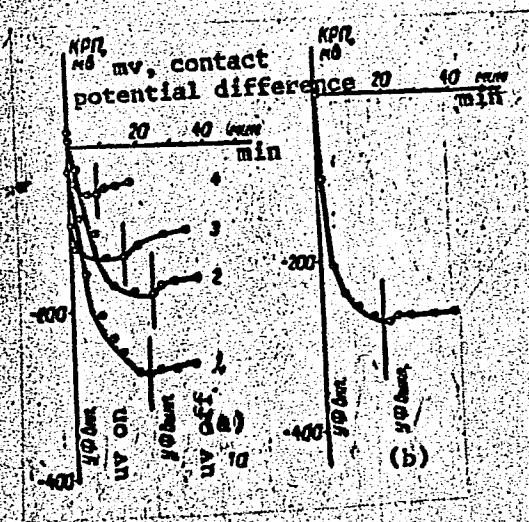


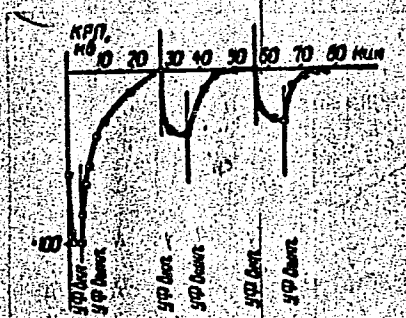
Fig. 1. (a): 1 and 3--rutile "malarin", 2--untreated rutile, 4--ZnO; 1, 2, and 4-- $p_{O_2}=10^{-4}$ mm Hg.

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L 2003-66

ACCESSION NR: AP5023967

ENCLOSURE: 02



Card 4/5

L 2003-66

ACCESSION NR: AP5023967

ENCLOSURE: 03

0

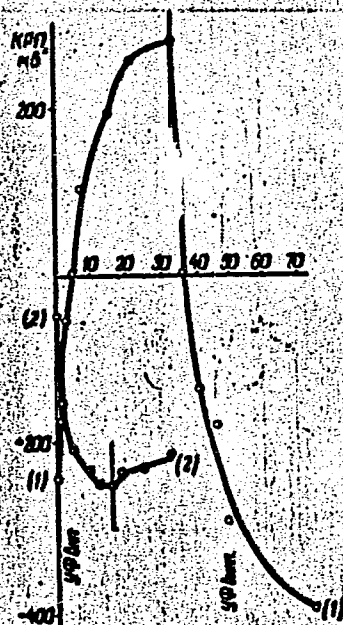


Fig. 3.

Card 5/5

LP

MAZURKEVICH, Yu.; LIKHOGODENKO, G., master sporta; MOISEYEV, V., master sporta; GRIGORENKO, Yu.; MERKOV, A.; SMIRNOV, P.; SOROKOTYAGA, L. (Zaporozhskaya obl.); DOLGANOV, Z. (g.Korosten', USSR); MIKEROV, B. (g.Yaroslavl')

Speak up, motorcycle constructors! Za rul. 17 no.7:9 J1 '59.
(MIRA 13:1)

1. Starshiy trener Kiyevskogo avtomotokluba (for Mazurkevich).
2. Obshchestvennyye instruktory Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu Leningradskogo elektrotekhnicheskogo instituta im. V.I.Ul'yanova (Lenina) (for Grigorenko, Merkov, Smirnov).
(Motorcycles)

SMEKHOV, Ye. M., prof.; BULACH, M.Kh., kand. geol.-mineral. nauk;
ROMM, Ye.S.; GORYUNOV, I.I.; GMID, L.P.; GROMOV, V.K.;
DOROFYEVA, T.V.; KNORING, L.D.; KALACHEVA, V.M.; TATARINOV,
I.V.; KLEYNOSOV, Yu.F.; KAPLAN, M.Ye.; ZVONITSKAYA, I.V.;
MAZURKEVICH, Z.I.; DRYABINA, N.N.; RUSAKOVA, L.Ya., vedushchiy
red.; BARANOVA, L.G., tekhn. red.

[Methodological text on the study of the fracturing of rocks
and fractured oil and gas reservoirs]. Metodicheskoe posobie
po izucheniiu treshchinovosti gornykh porod i treshchinnykh
kollektorov nefti i gaza. Leningrad, Gostoptekhizdat, 1962.
76 p. (Leningrad. Vsesoiuznyi neftianoi nauchno-issledovatel'-
skii geologorazvedochnyi institut. Trudy, no.201).

(MIRA 16:4)

(Joints(Geology)) (Oil sands)

MAZURKIEWICZ A.

Mazurkiewicz A.,

Mazurkiewicz A., Eng. "Lifting and Carriage of Loads in Relation to Work Efficiency and Safety." (Podnoszenie i przenoszenia cieżarów a wydajność i bezpieczeństwo pracy). Bezpieczeństwo i Higiena Pracy, No. 6, 1948, pp. 1-7, No. 4, 1949, pp. 1-8, No. 5, 1949, pp. 3-6, 23 figs., 2 tabs.

In spite of the mechanization of many transport operations, it is impossible entirely to eliminate manual transport which therefore must be subject to particular care. The general conception of work in a physical and physiological sense reviewed, as a prime mover of work generation, in relation to human efficiency. The expenditure of energy in lifting loads, under various conditions, by men, women and juveniles. Manual labour involved in the handling of mechanical equipment. The skelton character of regulations effective in individual countries in respect of the manual lifting and carriage of loads. These regulations should be amplified by the social elements interested and by the controlling authorities. The importance of auxiliary and protective equipment. Personal protection. Factors involved in the analysis of exertion.

SO: Polish Technical Abstracts - No. 2, 1951

MAZURKIEWICZ, A.

Analysis of safety in the work of a welder, p. 109. (PRZEGLAD SPAWALNICTWA, Warszawa, Vol. 6, no. 5, May. 1954.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 1, Jan. 1955, Unci.

PA. 12. 1941, A.

Combustible gases, steam, and liquids: some selected results of the
SCHEP A. 1941; and the results of the experiments, and the results of the experiments.

3: Monthly list of the European Accessions, (1941), Vol. 1, no. 1, (1941),
vol. 1.

LAZARUS, A.

Fires of inflammable liquids and gases. p. 180.

SCIENCE (USSR); SERIUS/ISSN 10.1016/0013-7901, Moscow, Vol. 1, no. 3, July 1971.

11: Monthly List of East European accessions, (USSR), Vol. 1, no. 1, Oct. 1971,
Incl.

Mazurkiewicz, A.

POLAND/General Question

A

Abs Jour: Ref Zhur-Khimiya No. 7, 1957, 21837

Author : Mazurkiewicz, A.

Inst : None

Title : Life and activity of Valenty Dominik.

Orig Pub: Wiadom. Chem. 1955, 9, No. 12, 571-579 (published
in Polish)

Abstract: Valenty Dominik (1891-1944), professor of inorganic
chemistry of the Main agricultural School in Warsaw.
Bibliography of his works is given.

Card 1/1

MAZURKIEWICZ, A.

Some remarks on instructing in industrial safety and hygiene. p.396.

MECHANIK. (Stowarzyszenie Inzynierow i Technikow Mechanikow Polskich)
Warszawa, Poland. Vol. 28, no.10, Oct. 1955.

Monthly list of East European Accession. (EEAI) LC, Vol.9, no.1, Jan. 1960.

Uncl.

MAZURKIEWICZ, A.

New feed devices in wood-working machinery at the 24th International Fair p.374
OCHRONA PRACY; BEZPIECZENSTWO I HIGIENA PRACY (Ministerstwo Pracy i Opieki
Spolecznej i Centralny Instytut Ochrony Pracy) Warszawa
Vol. 9, no. 11, Nov. 1956

So. East European Accessions List

Vol. 5, No. 1

Jan. 1956

MAZURKIEWICZ, A.

"Freon fire extinguishers."

p. 15 (Ochrona Pracy; Bezpieczeństwo I Higiena Pracy) Vol. 10, no. 2,
Feb. 1956
Warsaw, Poland

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,
April 1958

MAZURKIEWICZ, A.

The conclusion of the discussion on the 5-year plan of the Gdansk Electric Network Establishment. p. 14. (Ochrona Pracy; Bezpieczeństwo i Higiena Pracy, Vol. 10, No. 5, May 1956, Warsaw, Poland)

SO: Monthly List of East European Accessions (ENAL) 10, Vol. 6, No. 2, Aug 1957. Uncl.

MAZURKIEWICZ, A.

A new method of extinguishing mineral oil fires. p. 17.
(OCHRONA PRACY; BEZPIECZENSTWO I HIGIENA PRACY. Vol. 10, no. 7, July 1956,
Warszawa, Poland)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 12, Dec. 1957.
Uncl.

POLAND/Chemical Technology. Chemical Products and Their
Application. Safety Engineering. Sanitary Engi-
neering.

H-6

Abs Jour: Ref Zhur-Khim., No 13, 1958, 43806.

Author : Mazurkiewicz Andrzej.

Inst :

Title : Discharge of Static Electricity by Radioactive
Substances.

Orig Pub: Ochrona pracy, 1956, 10, No 10, 23-24.

Abstract: Methods of discharging static electricity by means
of ionizing radiation are utilized under conditions
when the possibility exists of the formation of
hazardous static electricity charges in an explo-
sive atmosphere. To effect the discharge use is
made of devices containing radioactive isotopes

Card : 1/2

POLANE/Chemical Technology. Chemical Products and Their
Application. Safety Engineering. Sanitary
Engineering.

H-6

Abs Jour: Ref Zhur-Khim., No 13, 1958, 43806.

Sr⁹⁰, Y⁹⁰ or Tl²⁰⁶ which emit beta-radiation.
Personel is protected against radiation by screens
of organic glass, or plastics, 3-9 mm thick.
It is recommended to use the isotopes in the form
of stable compounds with precious metals, to
minimize their diffusion and scattering.

Card : 2/2

MAZURKIEWICZ, A.

MAZURKIEWICZ, A. Two conferences on industrial safety. p. 15. Vol. 10, no. 12, Dec. 1956. OCHRONA PRACY: BEZPIECZENSTWO I HIGIENA PRACY. Warszawa, Poland.

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4--April 1957

MAZURKIEWICZ, A.

Floors of industrial establishments; the problem of industrial safety
and hygiene. P. 20
PRZEGŁAD BUDOWLANY. (Naczelna Organizacja Techniczna i Polski Związek
Inżynierów i Techników Budownictwa) Warszawa.
Vol. 28, no. 1, Jan. 1956

SOURCE: FEAL LC Vol. 5, no. 7, July 1956

MAZURKIEWICZ, A.

Industrial safety in the French building industry. p. 16.
Technology and industrial safety. p. 18 .
A. G. Industrial safety in assembling steel bridges. p. 22
L. M. Review of regulations in the field of industrial safety and hygiene. p. 30

OCHRONA PRACY. (Centralna Rada Związkow Zawodowych i Centralny Instytut
Ochrony Pracy). Warszawa, Poland. Vol. 13, No. 9, Sept. 1958.

Monthly List of European Accessions (EEAI) LC, Vol. 8, No. 8 August 1959

Uncl.

MAZURKIEWICZ, A.

Realization of resolutions and desiderata of the Rome and Brussels congresses on industrial safety and hygiene. p. 30.

OCHONA PRACY. (Centralna Rada Związkow Zawodowych i Centralny Instytut Ochrony Pracy) Warszawa. Poland. Vol. 14, no. 4, Apr. 1959.

Monthly list of East European Accessions (EFAI) LC. Vol. 8, No. 9, Sept. 1959
uncla.

MAZURKIEWICZ, A.

Prevention of accidents in agriculture and forestry in Austria.
Ochrona pracy 16 no.12:25-28 '61.

MAZURKIEWICZ, Andrzej, (Warszawa)

Remarks concerning the present state of industrial safety
and hygiene in the building industry. Przegl budowl i bud
mieszk 35 no.10:512-514 0'63.

LUKOMSKI, Andrzej, mgr. inż.; WIERKIEWICZ, Andrzej, mgr. inż.

Graphic method of calculating webs in cylindrical pressure vessels. Przegl. mech. 24 no. 2.33-36 25 Ja '65.

1. Head, Section of Measurements of the Steam Boiler Factory in Raciborz (for Lukomski). 2. Deputy Head, Section of Research of the Steam Boiler Factory in Raciborz (for Wierkiewicz).

MAZURKIEWICZ, Antoni

Varicose veins and results of their surgery. Polski tygod. lek.
11 no.43:1832-1836 22 Oct 56.

1. (Z Oddziału Chirurgicznego Szpitala Miejskiego Nr 8 w
Warszawie; Kierownik: doc. dr. med. Jozef Kubiak) adres:
Warszawa, Rynek Nowomiejski 6 m 13.

(VARICOSE VEINS, surgery,
results (Pol))

MAZURKIEWICZ, Antoni

A case of hemorrhage from the upper segment of the digestive tract caused by a hemorrhagic cyst of the pancreas. Polski tygod. lek. 14 no.25:1150-1152 22 June 59.

1. (Z Oddziału Chirurgicznego Szpitala Miejskiego Nr 8 w Warszawie; kierownik doc. dr med. Jozef Kubak.
(PANCREAS, dis.) (HEMORRHAGE, compl.)

MAZURKIEWICZ, Boleslaw, mgr., inz.

~~Method for measuring the deformations of tight bulkhead walls.~~ Tech
gosp merska 11 no.11:337-338 '61.

1. Zaklad Fundamentowania Politechniki Gdanskiej.

MAZURKIEWICZ, Boleslaw, mgr ins.

The communication tunnel under the Kiel Canal in Rendsburg.
Tech gosp morska 12 no.12:365-367 D '62.

MAZURKIEWICZ, Boleslaw, mgr inz.

Principles for test loading of piles; remarks on standard:
PN-58/B-~~92~~482 p.2.4.1.1 and p.2.4.1.2. Inz i bud 19 no.2:75-76
F '62.

1. Politechnika, Gdansk.

MAZURKIEWICZ, Boleslaw, mgr inz.

Construction of the communication tunnel under the Kiel Canal.
Inz i bud 20 no.1:9-13 Ja '63.

1. Politechnika, Gdansk.

MAZURKIEWICZ, Boleslaw, mgr inz.

Technology of producing the model elements of noncohesive soil. Archiw hydrotech 9 no.4:699-705 '62.

1. Zaklad Fundamentowania, Politechnika, Gdansk.

MAZURKIEWICZ, Boleslaw, mgr inz.

Evaluation of the possibilities of applying string gauges to tests of hydraulic sea constructions. Archiw hydrotech 10 no. 4: 643-663 '63.

1. Zaklad Fundamentowania, Politechnika, Gdansk.

MAZURKIEWICZ, Boleslaw, mgr inz.

The falling hinged gate of the dry dock of the Komuna Paryska
Shipyard in Gdynia. Tech gosp morska 13 no. 7/8:225-227
Jl-Ag '63.

1. Technical University, Gdansk.

MAZURKIEWICZ, Boleslaw, mgr inz.

Elastic settling of piles and the work of machines set
on pile foundations. Inz i bud 20 no.10:393-396 0 '63.

1. Politechnika, Gdansk.

MAZURKIEWICZ, Boleslaw, dr inz.

Tests on a double-sheet pile cofferdam in natural scale.
Archiv hydrotech 12 no.1:47-61 '65.

1. Department of Foundation Practice of the Gdansk Technical
University. July 1, 1964.

MAZURKIEWICZ, Boleslaw, dr inż.

Stress inspection of the structure and foundations of the dry dock
in Gdynia. Techn gosp morska 15 no.2:61-63 F '65.

1. Institute of Foundation Practice of the Gdansk Technical
University.

MAZURKIEWICZ, J.

"Our industrial management clubs."

p. 88

"A testing device for the compactness of pistons in combustion engines."

p. 88

"A detector to determine the position of a piston at the upstroke in a cylinder."

p. 89

"A ring gathering oil at a brake disc."

p. 89

(Motoryzacja, Vol 8 No 3 Mar 53 Warszawa)

MAZURKIEWICZ, J.

"Our Clubs of Industrial Management." p. 148. "A Device Preventing Backward Skidding of Mechanical Vehicles." p. 148. "A Rotary Bathing Pan for Electroplating with Cadmium and Zinc." p. 149 (FOTORYZACJA, Vol. 8, No. 5, May 1953) Warszawa

SO: Monthly List of East European Accessions, Library of Congress, Vol. 2, No. 10, October 1953. Unclassified.

"MAZYRY WISCI" 1.

Technological progress in the motor industry. p. 303

Mag. 1971, 1971 (Ministerstwo Transportu, Przemysłu i Lotnictwa) Vol. 10, No. 10, pt. 1-5
Warszawa, Poland

6. East European Accessions List

Vol. 5, No. 1

Jan. 1956

MAZURKIEWICZ, JAN

Wstep do psychofizjologii normalnej.

Warszawa, Poland, Panstowowy Zaklad Wydawn. Lekarskich. Vol. 2, 1950.

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 8, August 1959.
Uncla.

GAMSKI, Mieczyslaw; MAZURKIEWICZ, Jan

Essay on immunologic manifestations in myocardial diseases. Polski tygod. lek. 9 no.30:929-934 26 July 54.

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leukergic reactions)

(LEUKOCYTES,
leukergy in myocardial dis.)

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ordynator: dr B. Rodowski.
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Oddziału Chirurgicznego: dr. K. Mazurkiewicz. Wysokie Mazowieckie,
ul. Jagiellonska 26.

(STOMACH NEOPLASMS, surgery,
gastropancreatic cancer excis. (Pol))
(PANCREAS, neoplasms,
same)

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Torsion of Meckel's diverticulum in an atypical site. Polski przegl.
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Chirurgicznego: K. Mazurkiewicz.

(MECKEL'S DIVERTICULUM, compl.
torsion in an atypical site, case report (Pol))

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HWEJDA, J.; KACZER, E.

Studies on blood proteins in children in general anaesthesia. *Pediat.
polaka* 34 no.1:37-51 Jan 59.

1. Z Kliniki Chirurgii Dziecięcej A. M. w Łodzi Kierownik: prof. dr
med. A. Maciejewski. Adres: Łódź, ul. Armii Czerwonej 15.

(ANESTHESIA, eff.

on blood proteins in child. (Pol))

(BLOOD PROTEINS,

eff. of anesth. in child. (Pol))

MAZURKIEWICZ M. A.

Changes in surface tension of egg white and egg yolk during storage. Jan Czajka and Maria Mazurkiewicz. Roczniki Państwowego Zakładu Hig. 6:105-72(1965) (English summary).--The av. values for surface tension of 270 solns. of egg white and egg yolk for freshly laid eggs are: 67.8 and 54.7 dynes/cm., resp. After 180 days of storage of intact eggs these values decrease by 2.9 dynes/cm. for the whites and 5.1 dynes/cm. for the yolks. In case of bulk eggs stored for 180 days, the surface tension decreases: (a) when broken directly after laying, for egg white by 13.5 dynes/cm. for yolk by 14.8 dynes/cm.; (b) when broken after 90 days, for egg white by 7.2 dynes/cm., for yolk by 8.3 dynes/cm. Alina S. Szczesniak

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Direct-reading spectrum analysis of cast-iron. Chemia anal
7 no.1:149-158 '62.

1. Institute of Metallurgy, Gliwice.

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Uncl.

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no.(95):39-41 Ja '63.

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Neurological and psychiatric aspects of familial spastic
sclerosis. Pol. tyg. lek. 20 no.29:1091-1093 19 J1 '65.

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(Kierownik: prof. dr. med. Michał Jarema) i z Kliniki
Psychiatrycznej Pomorskiej AM w Szczecinie (Kierownik:
doc. dr. med. Leonard Jdowiak).

L 43786-66 EWP(w) IJP(c) EM
ACC NR: AP6021976 (A) SOURCE CODE: PO/0006/66/014/002/0199/0213

AUTHOR: Mazurkiewicz, Stanislaw; Zyczkowski, Michal

29

E

ORG: Cracow Polytechnic (Politechnicka Krakowska)

TITLE: Optimum design of a thin-walled bar²⁶ subjected to simultaneous torsion and bending

SOURCE: Rozprawy inzynierskie, v. 14, no. 2, 1966, 199-213

TOPIC TAGS: ~~bar, thin-walled bar, torsion, bending, bar profile, bar design~~
thin walled beam, torsion strength, bending strength, shell design, thin shell structure

ABSTRACT: The paper is devoted to the problem of the best design for a thin-walled bar. Its profile is determined in plane-polar coordinates by the functions $e(\theta)$ and $g(\theta)$ (the radius and the thickness of the wall. These functions are interrelated by means of the condition of equal strength so that the problem is formulated, finally, as an isoperimetric problem of variational calculus with one unknown function, with a minimum cross-sectional area for minimum weight. The

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ACC NR: AP6021976

Euler-Lagrange equation is solved by means of the small parameter method. Only the influence of bending on the optimum form of the twisted bar is studied. The stability of the wall is considered additionally on the basis of the linear theory of shell stability. Equations for the shape of the profile and the minimum cross-sectional area as well as a numerical example for the ratio of moments M_g/M_s are given in the original article. Orig. art. has: 3 figures and 4 formulas.^g
[Authors' abstract] [KS]

SUB CODE: 20/ SUBM DATE: 24Mar65/ ORIG REF: 006/ SOV REF: 002/
OTH REF: 006/

Card 2/2

MAZURKIEWICZ STEFAN

Mazurkiewicz, Stefan. Un théorème sur les polynômes.
Ann. Soc. Polon. Math. 18, 113-117 (1945).

The author proves the following theorem, which can also be expressed in terms of the concept of the transfinite diameter. To each $\epsilon > 0$ and $\eta > 0$ corresponds such that the following is true. If C is an arbitrary continuum of diameter 1 and E a closed set, $E \subset C$, such that the linear measure of $C - E$ is less than η , then for an arbitrary polynomial $P(x)$ of degree n we have

$$\max_{x \in C} |P(x)| < (1 + \epsilon)^n \max_{x \in E} |P(x)|.$$

G. Szegő (Stanford University, Calif.).

Source: Mathematical Reviews,

Vol 8, No. 5

MAZURKIEWICZ, STEFAN

Mazurkiewicz, Stefan. Recherches sur la théorie des bouts premiers. Fund. Math. 33, 177-228 (1945).

L'auteur expose la théorie des bouts premiers de B. Kaufmann [Math. Ann. 103, 70-144 (1930); 106, 308-342 (1932)] et une théorie nouvelle se rattachant à celle-là. Les bouts premiers introduits par l'auteur admettent une définition plus élégante que ceux de Kaufmann et conduisent

La définition fondamentale est la suivante. L'ensemble W est dit une frontière topologique de R , si (1) R est un sous-espace de $R+W$, (2) $W \subset \bar{R}$, (3) $R+W$ est compact et métrisable. Théorème fondamental. Il y a une frontière topologique W_a satisfaisante aux conditions: (4) si la suite $a_n \in R$ converge vers le point a de W_a , chaque suite conjuguée à a_n converge également vers a ; (5) W_a est plus faible que

nommée normale, si elle est conjuguée à chaque suite par les *Kaufmann* et celle de l'auteur. *H. Freudenthal*.

Source: Mathematical Reviews, Vol 8, No. 1

MAZURKIEWICZ, STEFAN: Research About the Theory of the First End Points *(15 28-)*

MAZURKIEWICZ, S.

Mazurkiewicz, S. Un théorème sur les fonctions caractéristiques. Bull. Int. Acad. Polon. Sci. Cl. Sci. Math. Nat. Sér. A. Sci. Math. 1940-1946, 1-3 (1948).

Let X and Y be independent random variables and $Z = X + Y$. Denote the corresponding characteristic functions by $\phi_x(t)$, $\phi_y(t)$, and $\phi_z(t) = \phi_x(t)\phi_y(t)$. If $\phi_x(t)$ is analytic in the circle $|t| < r$ so is $\phi_z(t)$; if $\phi_z(t)$ is entire of order not exceeding ρ , so is $\phi_x(t)$. For the proof it may be assumed that 0 is a median value for y . It follows easily that $\Pr\{|Z| > \lambda\} \geq \frac{1}{2} \Pr\{|X| > \lambda\}$ and hence $M_{2k}(Z) \geq \frac{1}{2} M_{2k}(X)$, where M_{2k} denotes the moment of order $2k$. The assertion follows easily by comparing coefficients in the two Taylor series.
W. Feller (Ithaca, N. Y.).

Source: Mathematical Reviews,

Vol. 10 No. 7

Smw

MAZURKIEWICZ, STEFAN

Mazurkiewicz, Stefan. Sur les espaces de variables aléatoires. *Fund. Math.* 36, 288-302 (1949).

A family $M = \{x\}$ of random variables x is called an EVA (espace de variables aléatoires) if, for any finite number of elements $x_1, \dots, x_n$ from M , their n -dimensional joint distribution $P_{x_1, \dots, x_n}(I_1, \dots, I_n) = \Pr \{x_k \in I_k, k=1, \dots, n\}$ is given. The author proves that the completion M^* of an EVA M with respect to the Fréchet metric

$$\rho(x_1, x_2) = \inf_{\lambda > 0} (\lambda + \Pr \{|x_1 - x_2| \geq \lambda\})$$

is again an EVA, and shows that the universal EVA M consisting of all real-valued functions $x(r)$ defined on the unit interval $\{r | 0 \leq r < 1\}$ can be considered as the completion M^* of a subfamily M_0 of M consisting of all step functions $x(r)$ with the property that there exists an integer n such that $x(r)$ is constant in each of the intervals

$$[(k-1)2^{-n}, k2^{-n}]$$

$$k=1, \dots, 2^n$$

S. Kakutani (New Haven, Conn.).

source: Mathematical Reviews,

Vol 12, No. 2

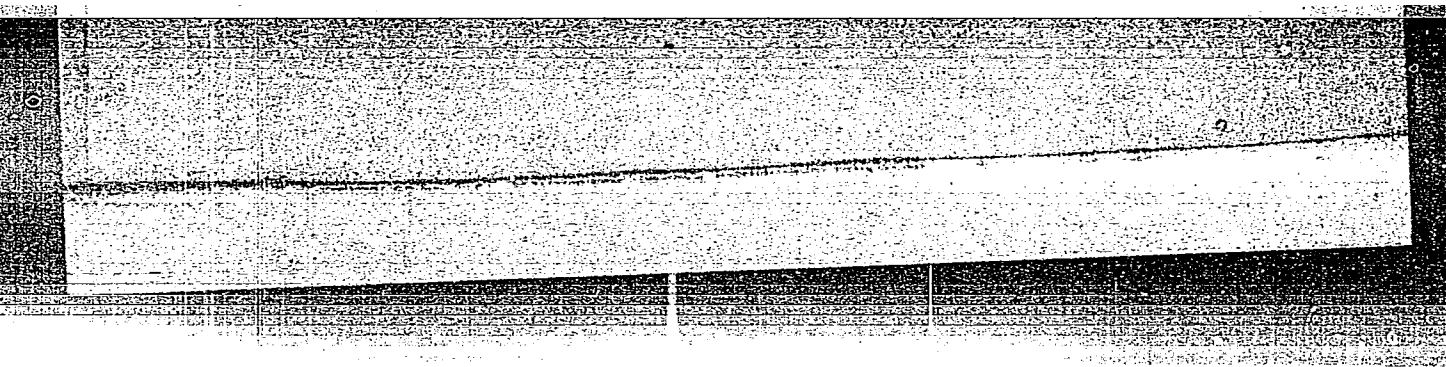
SMW

MAZURKIEWICZ, STEFAN

Mazurkiewicz, Stefan. Podstawy rachunku prawdopodobieństwa. [Foundations of the calculus of probability.] Prepared for print from the late author's manuscripts by Jerry Łoś. Państwowe Wydawnictwo Naukowe, Warszawa, 1956. iv+270 pp. zł. 27.
The aim of this book, as stated by the author, is to acquaint the reader with a modern foundation of the theory of probabilities and with those parts of the theory

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Mazurkiewicz, Stefan

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L.F.W

theory and of set-theoretical topology in Cartesian spaces.
— Part I, Elementary Probability Theory (pp. 23-174),
is mainly devoted to an axiomatic foundation of prob-
ability theory, based on the observation that the objects
to which probabilities are ascribed always form a Boolean
algebra. Most of Part I is therefore a careful exposition of
the theory of Boolean algebras. Less than forty pages deal
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MAZURKIEWICZ, S. The assembling frame. p. 13. Vol. 6, no. 1,
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Malapanew Steel Works is the oldest metallurgic industrial
plant in Silesian Province. Przegl techn no.25:8. Je '62.

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Electric installations of the Warsaw Central Station. Przegl
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1. Warsaw District Administration of Railroads.

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DZULYNSKA, Janina; JABLONSKA, Stefania; MAZURKIEWICZ, Walentyna

Sialol acid in the blood serum in skin diseases. Przegl. derm.,
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1. Z Instytutu Dermatologii i Wenerologii p. o. Dyrektora: doc.
dr. T. Stepniewski. Z Kliniki Dermatologicznej A. M. w Warszawie
Dyrektor: prof. dr. S. Jablonska. Adres: Warszawa, Instytut Derma-
tologii i Wenerologii, Koszykowa 82a.

(SKIN DISEASES, blood in
sialic acid (Pol))

(ACIDS, in blood
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Zofia

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the so-called collagenoses (scleroderma and lupus erythematosus).
Polski tygod. lek. 16 no.1:1-10 2 Ja '61.

(LUPUS ERYTHEMATOSUS blood)

(SCLERODERMA blood)

(BLOOD PROTEINS chem)

(NEURAMINIC ACIDS blood)

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MAZURKIEWICZ, Z. The improvement of statical computations of two-hinged circular
arches. p. 388

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Statically rational location of cross braces in the reinforcement of excavations. :.203.

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General expressions for the boundary conditions and the differential equation of equilibrium and vibration of an anisotropic nonhomogeneous plate. Bul Ac Pol tech 7 no.9:519-530 '59. (EEAI 9:6)

1. Department of Mechanics of Continuous Media, Institute of Basic Technical Problems, Polish Academy of Sciences. Presented by W.Nowacki.

(Elasticity) (Vibration) (Load (Mechanics))
(Plates) (Differential equations)

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A

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MAZURKIEWICZ, Z.; KRYNICKI, E.

Determination by the use of the Ritz method of natural vibrations of a loosely supported rod with a variable linear height of cross section.
p. 333.

INZYNIERIA I BUDOWNICTWO. Warszawa, Poland. Vol. 16, no. 8, Aug. 1959.

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MAZURKIEWICZ, Zbigniew (Warszawa)

Buckling of a bar of a variable cross-section. Archiw inz lad
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1. Presented by W.Nowacki.
 (Deformations (Mechanics)) (Plates)
 (Elasticity) (Strains and stresses)

MAZURKIEWICZ, Z.

Free vibration of an isotropic nonhomogeneous tectangular plate.
Bul Ac Pol tech 8 no.2:63-68 '60. (EEAI 9:7)

1. Presentee by W.Nowacki.
(Vibration) (Plates) (Strains and stresses)

MAZURKIEWICZ, Z.

Bending, vibration, and buckling of a rectangular orthotropic plate
resting on a nonhomogeneous foundation, Bul Ac Pol tech 8 no.3:129-
133 '60. (EEAI 9:11)

(Vibration)

(Bending)

(Buckling (Mechanics))

(Plates)

MAZURKIEWICZ, Z.

Buckling and vibration of a nonhomogeneous simply supported bar with regard to its own weight. Bul Ac Pol Tech 8 no.11/12:617-624 '60.

1. Presented by W. Nowacki.

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AUTHOR: Mazurkiewicz, Zbigniew (Warsaw)

TITLE: The problem of bending and free vibration of a simply supported isotropic, non-homogeneous, rectangular plate

PERIODICAL: Archiwum mechaniki stosowanej, v. 12, no. 4, 1960,
497 - 521

TEXT: The author describes a method for determining the equation of the deflection surface and the frequency of free vibration in a thin rectangular isotropic plate which is simply supported and loaded in an arbitrary manner normally to the middle surface. The mass and the flexural rigidity of the plate are variable in any manner. It is claimed that the use of Fredholm integral equations of the second kind make it possible to obtain accurate solutions which are much more general than all those known to the author. The assumptions made are (1) constant bending rigidity (2) small deflections (3) homogeneous boundary conditions (4) the non-homo-

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The problem of bending and ...

geneity consists in the mass of the material and the bending rigidity of the plate being known functions of the variables, (5) the variation of the thickness is small, (6) Poissons ratio is constant (7) the load acts proportionally to the middle surface which is horizontal, and (8) the motion of the particles due to transversal vibration is translational only. With these assumptions it is possible to obtain an accurate solution in some cases of variability of plate rigidity of bending, and in other cases approximate solutions with sufficient accuracy. The differential equation of the problem is replaced by a Fredholm integral in order to obtain an infinite system of non-homogeneous linear equations for the equilibrium case and homogeneous linear equations for the vibration case. The differential equation of the deflection surface and transversal vibration of the plate take the form, in the equilibrium case:

$$\frac{\partial^2 M_1}{\partial x^2} + 2 \frac{\partial^2 M_{12}}{\partial x \partial y} + \frac{\partial^2 M_2}{\partial y^2} - \rho(x, y) \tilde{w}_{tt} = - \rho(x, y, t)$$

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The problem of bending and ...

where $\rho = \rho(x, y, t)$ is load per unit area on middle plane surface, acting normally to this surface, $\tilde{w} = \tilde{w}(x, y, t)$ is deflection of middle surface, t is time, $\rho = \rho(x, y)$ is mass per unit area of middle surface, and M_1, M_{12}, M_2 are the bending moments and the torque per unit section length. This equation is transformed by use of a Green's function to a Fredholm integral equation. The integral equation solves to an infinite system of non-homogeneous linear equations

$$\sum_{kl} A_{kl} (S_{ijkl} + \delta_{ik} \delta_{jl}) = Q_{ij} \quad (i, j = 1, 2, 3, \dots, \infty). \quad (4.38)$$

where

$$Q_{ij} = \frac{4}{a^2 b^2} \sum_{mn} H_{ijmn} a_{mn}, \quad (4.35)$$

$$S_{ijkl} = \frac{4(1-\nu)}{a^2 b^2} \sum_{mn} H_{ijmn} (a_m^2 b_{klmn} + 2a_m \beta_n c_{klmn} + \beta_n^2 d_{klmn}). \quad (4.36)$$

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$$A_{ij} = \sum_{kl} A_{kl} \delta_{ik} \delta_{jl} \quad (4.37)$$

H_{ijm} comes from the Green's function

$$\bar{w}(x, y, \xi, \eta) = \frac{4}{a^3 b^3} \sum_{ij} \sum_{mn} H_{ijmn} \sin \alpha_m \xi \sin \beta_n \eta \sin \alpha_i x \sin \beta_j y, \quad (4.22)$$

The accuracy of the solution depends on the number of equations taken. An example is given where function

$$D(x, y) = D_0 (1 + \kappa_1 \sin^2 \alpha x) (1 + \kappa_2 \sin^2 \beta y)$$

is taken to describe the variability of the bending rigidity. D_0 is the bending rigidity of the plate, α_1 and α_2 are constants, and $\alpha = \pi/a$, $\beta = \pi/b$. In particular α_2 is taken as zero, that is the bending rigidity depends only on x . Two or three successive coefficients A_{kl} only need be taken. Writing

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The problem of bending and ...

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$$Q_{ij} = \frac{16}{\pi^2 ab} \sum_m \frac{H_{ijm}}{m^j} \quad (i, j, m = 1, 3, 5, \dots, \infty). \quad (4.73)$$

and taking only the first three non-zero terms, a degree of accuracy adequate for practical purposes is obtained. For $a = b/4$, $\nu = 1/4$, $x_1 = 8$, the deflection at the center under a load $w_{\max}$ distributed in a continuous manner and uniformly orthogonal over the surface is given in Table 3. The author suggests that in computing bending moments and shear forces where the degree of convergence will be less a greater number of coefficients A_{kl} should be taken. The differential equation of transversal vibration of a non-homogeneous plate, the translational motion of its elements only being considered, has the known form

$$\nabla^2 (D \nabla^2 \tilde{w}) - (1 - \nu) (D_{yy} \tilde{w}_{xx} - 2D_{xy} \tilde{w}_{xy} + D_{xx} \tilde{w}_{yy}) + q \tilde{w}_t = 0. \quad (5.1)$$

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The problem of bending and ...

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where w is the frequency of vibration and ν is Poisson's ratio. As for the equilibrium case, the same Green's function is used to obtain the homogeneous Fredholm integral equation of the second kind, which solves to the infinite system of homogeneous linear equations

$$A_{ij} = \sum_{kl} A_{kl} (\lambda R_{ijkl} - S_{ijkl}) \quad (5.9)$$

where

$$R_{ijkl} = \frac{4}{a^2 b^2} \sum_{mn} H_{ijmn} e_{klmn} \quad (5.10)$$

If the mass and rigidity are functions of one variable only, say x , the equations become

$$\sum_k A_{kj} (\lambda R_{ijk} - S_{ijk} - \delta_{ik}) = 0 \quad (i, j = 1, 2, 3, \dots, \infty). \quad (5.15)$$

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The problem of bending and ...

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where

$$e_{klmn} = e_{km} \delta_{ln}, \quad e_{km} = \frac{b}{2} \int_0^a \varrho(\xi) \sin a_k \xi \sin a_m \xi d\xi. \quad (5.13)$$

The non-zero solutions are found by setting equal to zero the principal determinant of the system of equations, and finding the fundamental frequency from the least eigen value. The author says that it can be easily verified that where mass and rigidity are constant the system of equations reduces to a system of independent equations from which

$$\omega = \pi^2 \left(\frac{k^2}{a^2} + \frac{l^2}{b^2} \right) \sqrt{\frac{D_0}{\varrho_0}}. \quad (5.20)$$

For variable mass and rigidity various approximate methods may be used. [Abstractor's note: Approximate methods not given]. Using the given solutions and those of Nowacki, further generalization of the problem may be obtained by finding the corresponding solutions for the plates clamped along one or more edges. Similarly accurate solu-

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